

Epidemicity in general
and
Enteric Fever in particular,

from

The Country practitioners point of view
by

Charles Wilson
M.D.

London

ProQuest Number:27552951

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 27552951

Published by ProQuest LLC (2019). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code
Microform Edition © ProQuest LLC.

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

The anomalies of disease form a constant source of surprise and perplexity to the young practitioner, and the ever recurring complications and modifications of all forms of disorders, soon lead to the conviction that diseases are not entities, capable of rigid definition & delimitation, but even in the case of so-called specific diseases are subject to very great variations.

In no class of diseases is the caprice of nature more marked than in those which take the form of epidemics, and the object of this paper is simply to give expression to my reflections upon the epidemics which I have personally observed; supplemented by the opinions of a considerable number of my provincial medical brethren.

The present state of medical opinion is such as to make the terms epidemicity

2

and specificity almost synonymous; or in other words the idea of an epidemic disease at once suggests the presence of a specific originating cause in the form of a separate infecting organism.

The course of all medical investigation seems to be leading up to the conclusion, that the source of all epidemics is to be found in the presence & power of organisms which have to a certain extent an independent and separate existence. This view is very clearly by Scandinavian. "Every kind of contagium consists of extremely minute living particles, spheroidal, transparent, ~~microscopic~~ or Bacilli or Spirilla." He further states that "all microzoms may not be contagium particles, but all contagium particles may be microzoms"

The fundamental idea of an organic exciting cause, may be said to underlie all

notions of epidemicity viewed in the light of modern science — Whether these germs belong to the animal or vegetable kingdom, whether they are fungi or ferments or animalculi, whether they are innate in man & only requiring development. "their power remaining "in posse" ready to manifest itself, waiting to enter "in actu" upon favouring circumstances arising" ^I or whether they may remain for long in a state of quiescence external to man it is not our business to determine.

It is enough for our purpose that germs may be regarded as the seeds which sown in the soil of the human frame, and scattered over a community, produce the harvest of an epidemic disease, and the subject of this paper will be the consideration of the nature of those germs and the conditions of their growth and spread, as observed in such

^I Lousseau Clin. Med. Vol III P. 28.

epidemics as I have seen.

Speaking generally, infectious diseases and their corresponding germs may be divided into two classes:—

A. Those diseases which prevail in wide spread epidemic form, appearing in a given district, more or less rapidly affecting all the available subjects in an entire community; then disappearing, only to return again in due season and repeat the same performance. To this class belong Scarlatina, Measles, Hoopingcough, Smallpox, Influenza, &c. — Such diseases always present marked evidence of the presence of some morbid element, and evidence of cure to ease, progress of the disease may readily be established — The germs are as it were imported into the district, spread under certain conditions until all the available pabulum is consumed then cease from lack of pastures new & die out from inanition.

B. The second class on the other hand comprises a series of diseases seemingly specific and well defined, yet often appearing sporadically, without recognisable history of contagion, sometimes remaining more or less constantly in a district, in endemic form, and only occasionally assuming the character and dimensions of an epidemic.

To this class belong, Enteric Fever, Diphtheria, Purpural Fever, Erysipelas, and perhaps the malarious types of disease - . The impression conveyed by the appearance & character of these diseases, suggesting that the germ producing either remains latent until special circumstances develop it, or that a germ otherwise innocuous, gains mor-bific power, under certain conditions.

Here arises the question, how every infectious disease, a specific organism, as the only source & cause of it; or is it possible

that the same morbid germ or contagium, may under different circumstances, give rise to entirely different diseases. So far as my experience goes there is something to be said on both sides.

Firstly we have to consider that the researches of Lyndall, Pasteur, Lister, Klein and others, shew that the air, earth, and water are teeming with myriads of forms of Bacterial life, that there present great variety in kind, and ~~can in~~ many instances are capable of retaining vitality under even ~~more~~ favourable circumstances, for a great length of time. With this in view, what could be more natural than to suppose that amidst this multitude, one to be found specific germs, for all the forms of infectious disease.

An assumption of this kind, seems almost necessary to explain many types.

of such diseases, which the ordinary practitioner is constantly meeting with.

Epidemics of Diarrhoea, Sea Sickness, Pneumonia, Catarrh, and some other forms which do not come under the generally accepted list of contagious diseases, are only in this way to be explained. Satisfactorily.

Thus during the past summer, Breve was visited by an epidemic of diarrhoea, which was so prevalent, and presented in most cases, such a decided similarity in symptoms; as to bear all the marks of a typical epidemic disease. Hundreds of people were attacked, whole families being frequently affected, and in many instances the connection of one case with another could be traced. Now it is not enough to say, that the excessive heat of July & August may have caused this, nor can it be explained on the ground

of error in diet & drink, - as in many cases, carefully investigated. By me, nothing of the kind could be detected, many of the people - attacked, having exercised particular care in this respect.

The resemblance, in the different cases, as regards duration, character, and order of symptoms, and in ^{the} course of convalescence, was eminently suggestive of a contagious disease, with a specific cause. In no case, was the disease fatal, in but few instances did it give rise to more than a few days exaceration & discomfort, & with its departure, it is forgotten. No microbe is searched for: no new name is wanted to stamp it, and mas much as it is not virulent enough to cause death, it receives no special distinction.

Of much the same nature, is a form which prevailed in the Andaman,

of 1882, in the Leicestershire Village of Hathorn, where a considerable proportion of the population, suffered from a form of Sloughy Sore Throat having all the appearances of diphtheria, and accompanied by some of its symptoms of pyrexia, & prostration; yet in no case proving fatal, nor in any instance, followed by the sequelae of true diphtheria. The evidence of contagion was well marked. What was the germ? -

On this supposition of unclassified germs, occasionally developing morbid qualities, may be explained the anomalous epidemics of Pneumonia, Catarrh, & Laundice. &c. which are often met with. Haller says every fever has its own special cryptogam.

Under this hypothesis, too, we may look for a possible explanation of the fact, that at times there seems to be an epidemic influence abroad, and simultaneously there comes

a series of cases, suggestive of infection of some kind. Instances of this kind, have been noted by many writers, and in the popular mind Spring & Autumn, are regarded as seasons, productive of this class of disease. Baillie in a memoir, written on the subject, reports an epidemic of catarrhal Fever, Pneumonia & epidemic malaria, occurring in the village of Bains in 1866. He recognises one morbid infection element, or agent, as the cause of them, and considers it to be a catarrhal Foment or Miasm. ^{Dr} *Kalmus* has observed simultaneous prevalence of Diphtheria, Scarlet Fever, Erysipelas and Puerperal Metritis. From inquiries I find that the same opinion is generally held among my medical brethren. Mr. Turner of Chester quoting a particular instance of the existence of Enteric ~~Fever~~ and Cerebro-spinal Meningitis in the same family simultaneously.

II On the other hand it may be main

^F N. B. M. 13. Lond. 1862 published by Gleaner Society P. 102

-lained that the same specific germ may under different conditions, produce a seemingly different form of disease.— In support of this view it may be contended, that recent investigations prove conclusively that the poison and possibly the character of the form are capable of great modification. Pasteur's in the cultivation of the Anthrax Bacillus and the germs of spleen fever, as also the more recent attempts to modify the virus of Rabies go far to establish the fact that by a process of artificial cultivation the germs of the most virulent diseases become comparatively mild in their effects and yet retain their specific power of giving the subject of their operation immunity from the more originally virulent forms.

If then this artificial attenuation is possible, it requires no stretch of the imagination to conceive of a natural attenuation

in the varying circumstances and conditions under which all germs must pass.

The very marked changes in degree and in type of the same form of epidemic, unexplainable in any other way, can be explained on this hypothesis. Every practitioner that

has been impressed with the extremes of virulence, presented by Scarlet Fever. My first experience of this disease during an epidemic in Guirke in 1877. was very peculiar.

The disease in a most virulent form prevailed over the whole district, entering almost every house, and in many instances swept whole families of children off.

Convulsion, Pruritic neck, sloughy sore throat, were present, in the majority of cases and sequelae in convalescence, was the rule rather than the exception.

Since then I have seen many epidemics of this disease, in various forms, in different places but

in many instances it gave rise to comparatively little alarm. During the last few months, for instance in the Parish of Coptenhall, in this neighbourhood I have had many cases of Scarlet Fever but never had a moment's uneasiness from any of them. On this hypothesis too it would be possible to explain the benign forms of Diphtheria, Sore Throat and the mild attacks of "gastro," "cold," and "slow" fevers, which the country practitioner so often sees.

Bearing out the same idea the account by J. Coner Ewart:^I of the appearance of a new form of fever in Aberdeen characterised by swelling of the deep cervical glands, and found to be produced by milk contamination by spores, which infected a cistern of water used for cleansing the milk utensils.

I. B.M.J. Nov. 1882

In addition to these two aspects, in which we have regarded germs, there is another idea which has often been impressed upon me, and that is the possibility of a germ naturally harmless and innocent, attaining morbid and virulent properties under circumstances capable of developing these qualities; and although I can adduce no evidence in support of the opinion; and find that Dr. Kleins researches show that the transmutation is improbable still it is worthy of mention.

Typhus fever is a specific contagious disease, at one time very prevalent in this country and still I suppose occasionally to be met with - In seven years experience in very large practice, I have never seen a case. It is admitted that in a sense the disease requires as an essential of its existence, privation, overcrowding, and bad ventilation, and the presence of those conditions, would.

I suppose at any time produce it. Is it to be understood that the original germs are today lying latent, and dead from lack of developing conditions, or might we not surmise that ~~germs~~ the "medical constitution" produced by those conditions the added virulence of an ordinary, might beget typhus, which once be gotten may be transmitted to healthy constitutions living in better circumstances.

In further considering the nature of epidemicity attention is drawn to the fact that something more than the mere im-
-portation or manufacture of a germ is necessary to the spread of the disease.

Solitary or very scattered cases of undoubtedly infectious disease are often met with by the country practitioner; and even in cases of a marked degree of contagion where no special means are used to prevent its spread, the disease shows no tendency to assume

epidemic proportions. This fact was particularly impressed on my mind during a recent epidemic of measles in Long Wharton. Previous to its appearance I had attended several solitary cases in the immediate neighborhood & some time previously one or two in the village itself. These however seemed entirely to disappear; when suddenly the mischief reappeared and swept through the whole place, affecting nearly every family in the place within a fortnight.

At the present time in Crewe I have two cases of Hoopingcough and have only seen an occasional one during the last six months yet account for it as I can it seems to me in this instance only to be infectious in a very limited degree.

The cause of this is difficult to determine. Professor Charles Robin^d is of opinion that malarial causes or germs may remain latent;
 I Trans. Clin Lect. Vol. iii P. 37.

clustering for a longer or shorter period, buried in organic substances; then at a particular moment under certain telluric and atmospheric conditions, with the nature of which we are not acquainted, but the influence of which we are denied, they develop themselves in previously predisposed constitutions.

Lrousseau* in discussing the same subject, says. There are two factors, the morbid germ coming from without; and the economy, about to receive it. He further argues there must be a certain predisposition engendered; and speaks of "Medical Constitutions" during the prevalence of which all morbid influences act; when there is no such predisposition the specific germ perishes. Again* he says. "quantity of the germ but still more quality of the germ, aptitude of the individual of the individual by whom the germ ought to be received and conceived; and the relative circumstances in

* Clin Lect - Vol III P 37.
 " " " " P 49.

which the individual is placed on the conditions which influence contagion and infection.

In the translation of Keich's handbook of Geographical and Historical Pathology published by the Sydenham Society I find that in the case of almost all epidemics he finds negative results as to the popular views of the condition of the spread of infectious diseases.

Periodicity seems to be the only explanation given of the appearance and spread of epidemics. He says in speaking of measles that it simply depends upon the importation of the germ and the number of people susceptible to its influence. He further finds that in most instances, weather, soil, season + telluric influences have no great effect in controlling the spread of our usual epidemics.

We next come to consider the marked variation in virulence and benignity which is characteristic

of most of our infectious diseases; not only as seen in individual cases but also as a feature of an entire epidemic.

I find from enquiries instituted by me in the neighborhood, ^{that} almost all my medical friends regard Measles, Hooping Cough, and Variella as the most constant, and even of the epidemic diseases, while Scarlet Fever and Typhoid Fever are regarded as the most variable. Hirsch seems to regard Influenza as the most stable of the epidemics.

In estimating the probable causes of these varieties we must account: first, of the conditions which may influence the contagion, and second those which act upon the receptive individual.

(V) as to the conditions likely to affect the germs themselves we have to consider the fact already alluded to that the virulence of germs are capable of modification.

by artificial cultivation and that a person affected by the germ so modified presents symptoms correspondingly benign. And if this be possible artificially there is every likelihood that natural attenuation is of frequent occurrence. We know for instance that the germ of *L. phus* requires conditions of privation, bad ventilation and overcrowding to develop its morbid properties, while temperature, moisture and certain states of atmosphere seem to influence the potency of others.

Another possible explanation of it may be found in the fact brought out by Dr. Francis's observations that parasites are themselves the subjects of disease of a germ type, still further adding to the truth contained in the phrase that

"Fleas have their own fleas to bite em."

And their fleas, fleas ad infinitum."

On the whole however it must be admitted, that not alone among the general

~~practitioner~~ but even with our highest authorities there is a generally acknowledged ignorance of the causes under discussion as evidenced by Hirsch* in speaking of Scarlet Fever "We are completely in the dark as to the conditions, as to the influence which makes Scarlet Fever epidemics to assume a good or bad type. Science at the present day has to confess ignorance on this point just as Drake did when he said "Of the causes or conditions which determine those diversities of phenomena and danger we are entirely ignorant."

II. We have to consider the circumstances which may influence the individual or community so as to modify the potency of the virus.

(1) That a ~~person~~ under bad hygienic conditions will render an individual more liable to take epidemic, or for that matter any other disease

* His Hon. Speeches, Vol. 1, p. 192.

in an aggravated form, is universally admitted.

(b) Certain families seem to have special predisposition to the attack of infectious disease in severe form, I noticed this particularly in a very severe epidemic of Scarlet Fever in Muskirke, where in a few instances whole families were swept away; a notable instance of this is found in the sad history of the house made in the family circle of the late Archbishop Sait by this disease.

I have in many instances noticed this tendency in Enteric Fever and Diphtheria; and the country practitioner frequently comes across families, where to put in proper phrase "The members are sure to take everything that is about"

(c) An essential feature in the nature of a specific disease is the immunity from any subsequent attack, conferred by once having suffered. And it seems, proved in the

case of Smallpox, that the immunity so obtained may be transmitted, or at least modify, the type of disease in a succeeding generation.

(d) The condition of the nervous system at the time of exposure, tells to some extent.

It is a widespread popular belief, that fear and depressing moral emotions increase the risk of infection, and my experience so far as it goes corroborates this idea.

In this way it is possible to some extent to account for the wonderful difference in type and degree of severity, which characterize all epidemics, although it has to be admitted that there is much in the subject which is still mysterious. And that an unknown something which we may name "Epidemic Constitution" "Medical Constitution" or "Periodic Receptivity" by which disease becomes at irregular ^{recurring} intervals prevalent in a high degree over wide areas

The study of Enteric Fever, has a peculiar interest to the medical practitioner.

The history of its delineation and classification, the frequency with which it is met in ordinary practice, and the uncertainty and variety it presents in type and symptom, combine to make it worthy of special study.

Its precise establishment is a product of modern times, and the mere fact that it only attained its definite place in the nomenclature of disease, after keen and protracted controversies, will sufficiently show that its whole bearings have been thoroughly studied & commented on.

It is therefore, with no thought of adding anything new, to what is already known, that I venture upon the subject, but simply to give expression to the teaching of my little experience, on such points as may still be "sub judice"

26

I take it for granted, that no modern practitioner denies the identity of Enteric, as distinct from Typhus, yet as I find in comparatively modern books, that the idea of the type changing from one to the other in the course of an epidemic¹*, as also that Typhus and Typhoid are different forms, produced according to climate and race; species of one genus.²* I think it worth while to mention, that although I have seen a great deal of Enteric Fever, I have yet to ~~do~~ ^{do} with my first case of Typhus.

The question of the cause of Enteric, has been the subject of much controversy, and the battle cannot be ^{said to be} ~~called~~ finally settled at the present day, although undoubted-ly the weight of scientific opinion tends towards the idea of a specific germ, as the cause of the disease.

These are three possible views, which

¹* Kennedy, y. B. Med. Z. & 1862 P. 44
²* Schmidt " " " " " " P. 38

have been taken on the subject, and there may be called. - The "Specific germ" theory the "Autochthonous" theory. and the "De novo" or pythogenic theory. It seems to me, that there is a certain amount of truth in all of them.

Dr. Budd one of the leading advocates of the first mentioned theory, certainly seems to make good his case, in ^{the} instances he adduces, and it is beyond question, that where the disease takes an epidemic form, if careful investigation be made, a source of infection, and a history of a development from one centre, can usually be established. In favour of this theory, is the fact, that the activity of germs, may remain dormant over a considerable period, must be taken into account. The "repose of the ^{*}germ^{*}" being held to explain the many instances of broken links in the chain of connection, between cases, which are

* Traubeau (Clinical Lectures vol III)

So frequently met with in this disease.

The Autoethanous theory, as expressed by Chauvfford, supposes that the ~~germ~~ ^{virus} may be spontaneously developed, under certain circumstances in the human subject; and regards the germ as the virtual representative not of a being but of a mode.*

In support of this, it may be argued, that the sanitary arrangements and defective hygienic conditions, develop a predisposition to the production of all kinds of all kinds of zymotic disease. The "medical condition" so founded, if not the exciting cause of Typhoid, is at any rate an essential and important part of it.

The Pathogenic view held by Murchison, although seemingly less popular now, has a great deal to be said in its favour.

Speaking generally, Typhoid although a specific disease, does not present the

* "Brathwaite's Petrospect" Vol. LXXXVII. P(16.)

The characteristics of Specificity, in a marked manner. It often appears sporadically, is endemic rather than epidemic, and does not seem to confer immunity on the subject of its attack.

Coming to the study of individual cases, we find that its production, and diffusion, always depends on certain external circumstances; that is to say,

We always expect to find the disease associated with bad sanitary arrangements; in the form of drainage being defective, presence of decomposing sewage, or water contaminated by such. The invariable presence of these conditions is certainly eminently suggestive of something more than a casual or secondary part, played by them in the causation of the disease.

Then again the fact that sporadic cases are constantly met with where

it is impossible to find the connection with another case, favours the "De. hosi" theory.

Thus for instance, in my limited experience, I have found the disease to be common, and in virulent form too, in farm-houses and cottages in the country, remote from others. I have repeatedly failed to find any trace of connection with other cases, but never failed to discover some typhogenic agent, in the Sanitary arrangements.

Of course this may be explained away by the former school, on the supposition that germs may have remained there in latent form for a very long time, and only ^{then} springing into activity; Or the germs may be import-
-ed in an accidental manner, as seems to have been the case in a recent epidemic in Fagus-hill, Kelving, where it ^{is} supposed that some Glasgow typhoid germs, were carried down in

in the manure. Spread on the fields, & filtered into the water supply.

Taking all these hypothetical explanations of such cases, where proof is impossible, it still seems to me that there are cases, where all ordinary reasoning, would point to the "De Novo" origin.

One case in particular, occurs to me, where the disease broke out in severe form, in one family, in the large village of Sheep-chard. To my certain knowledge, there had been no typhoid in the village or neighbourhood, for more than one year. And in fact the introduction of a new drainage system, seemed to have seeded the disease. The first to suffer, was a lad twenty one years of age, who always maintained that he caught the disease from a strong smell of sewer gas, which he inhaled, when passing a ~~drain~~ hole, leading down to the drains, which opened near his house

His conviction, was strong, and unshaken, that he sickened and never felt well after the occurrence. Two other younger brothers, took the disease shortly after him, and strange to say the only other cases occurred in an isolated house, on the other side of the road, but within ~~twenty~~ yards of this ventilator, and the people here too, often complained of the smell from it.

Here then you have a ~~disease occurring~~ ^{the fact} that ~~is in the fact~~ of these cases, occurring after two years absolute immunity from this disease; They are seemingly attributable to the sewage gas, and are neither preceded nor succeeded by any other cases.

Again the only case, I have seen in Crowe, occurred in one family, in a populous part of the town, where all the inmates were attacked in a most virulent form, except the father of the household. There were neither

preceeded. nor followed. by another case, so far as I can ascertain. The case seemed to be due to an abominable system of drainage, connected with the house. The family in question had occupied the house, many years and had notoriously bad health during the entire period - Sore throat, Scarlet fever, and general debility, being common among them.

My little experience, threw points in the direction of Murchison's views, although I am most in favour of the compromising theory propounded by Lien Colin, that typhoid is generated spontaneously by infection, and specifically by contagion; His idea is that the miasmatic agent is developed spontaneously in some putrid medium, out of which it comes to affect the system; but once introduced into the human body, the infectious agent may become contagious. So much for the causation of Intense Fever, we now notice the character of the

disease itself thus produced.

Few diseases vary more in type and degree, than Enteric fever; In one epidemic tend in one family, there may sometimes be seen cases, varying from the more or less severe malaise, called by some, Abortive Typhoid to the more typical case of severe typhoid.

In this affection, more than in any other, it has always seemed to me, that the age, general health, and constitutional tendency of the individual, play an all important part in the bias of the disease.

In my own mind, I have always roughly divided Enteric Fever, into three classes based upon the symptoms most likely to cause death. These I might almost term Abdominal, Thoracic, and Cerebral.

My first experience of the disease, occurred in a hilly, and chilly part of Scotland: where the type was markedly Thoracic; that is

to say, so prevalent, and all important was the Pneumonia and congestive bronchitis, which almost invariably complicated the disease, that not only was the chest examined as a matter of routine, but the affection was regarded as in a sense symptomatic.

I cannot remember, that in any of these cases we had much trouble with diarrhoea or nervous exhaustion.

Strange to say, in answer to queries, sent out by me, a Singwall correspondent writes that Pulmonary congestion and Pneumonia are the commonest symptoms of Enteric Fever.

In England, on the other hand, Pulmonary mischief so far, as I have observed is comparatively rare, and the disease either assumes the (2) abdominal type, characterised by diarrhoea, Tympanitis, and Bloody motions, with the rash pretty well developed, or (3) The Cerebral type, which I find to be very common in

in this form

towns; ~~where~~ low muttering delirium, sleeplessness, restlessness, dry brown trembling tongue, dull stupor, general nervousness, tremor, and great debility are the prominent symptoms, this form, I have often seen accompanied by constipation, and is most liable in extreme cases, to be complicated with bed-sores and retention of urine.

I am not aware if this classification has been made before; I fear it may not stand the test of scientific investigation, but I present it purely as the outcome of my own petty observations.

Another point which has always interested and puzzled me in regard to Typhoid, is the difference in the frequency with which different symptoms appear. Thus I should say that to me, the most constant + characteristic symptom of Enteric, is the Typhoid tongue; this I believe to be specific from the first and is generally

The first finger point to me in my diagnosis

In the early stages, a particularly bright red margin, with a peculiar white fur, with small papillae here and there, shining through it, ~~in the early~~ ^{later} stages' dry, cracked, brown and smaller than usual; in the last stages shrivelled, black and cracked.

Next in order of frequency and certainty, is the gurgling, in the right iliac fossa, which I rarely find absent.

Next is the well known typhoid temperature, with its evening exacerbations.

With the exception of these three, the other symptoms are very uncertain, & irregular in appearance. Diarrhoea is of course common, but many cases do not present any marked degree, and constipation often occurs. As in one instance mentioned to me by Dr. Dobbin of Chester, where one whole epidemic was characterised by constipation.

The Rash is only ~~is~~ present in a com-

few cases in my experience of the disease and latterly even when looking for it in a typical case I scarcely expect to find it.

Delirium, in some degree is present in almost all cases; and is a marked feature in the cerebral class.

Tympanitis is common in the abdominal type but bloody motions, I find to be rare.

Different epidemics I believe present the different symptoms, in varying degrees.

Thus in answer to a series of queries regarding Enteric, instituted among my medical brethren, I find in reply to the question What is the most common symptoms of Enteric fever? Malaise, Pyrexia, Flushing, Headache, Bronchitis, Diarrhoea, Torpor, Gurgling. While the least common is returned as Bloody motions, Rash, Diarrhoea.

Again in estimating the prevalence of the different symptoms, I find an equal

variety of opinion, the average appearance of the rash for example, is variously given as "all cases" "about one half" "three fourths" and "variable"; while the presence of diarrhoea is returned as "nearly all" "ninety of a hundred" "two thirds" & "one third". The average of typhoid again is estimated at "eight per cent." "fifteen" per cent. "seventy-five" per cent. "sixty per cent." As contrasted with this there is a marked consensus of opinion respecting the ratio of bloody motion. The whole of the returns ranging between seven and ten per cent.

With regard to treatment, the two points on which opinion most differ are the use of astringents to check diarrhoea and the administration of stimulents.

- (I) First, Should diarrhoea be checked?²
 On this point great variety of opinion, is expressed alike by authorities and the or-

dinary practitioners. Some under the opinion idea, that it is nature's method of eliminating the disease, foremost among whom may be mentioned Houssea and Johnson, are opposed to any astringent measures being adopted, while others such as Pristowe & argue in favour of keeping the diarrhoea checked, and the bowels at rest. The same difference of opinion is current among the ordinary practitioners; one considering that diarrhoea should "not certainly" be checked, another that it should only be interfered with if stools are more than four a day." The general opinion however seems to be that the diarrhoea should be controlled but not checked.

(2). On the question of the administration of stimulants there seems to be even less certainty of opinion. No one who has been privileged to receive his tuition from Professor Gairdner can fail to have very distinct ideas, as to the proper place, and use of stimulants, in the treatment

of fever. That it is not a food; that it must be given with a definite aim, and withdrawn as soon as its object is fulfilled; that it must not be administered in advance of the actual requirement; and that we are not to look for permanent results from their use; Such are the views held by him, & seriously impressed on all his students, and I have found them to be safe & a wise principle, when applied to practice.

As opposed to this however, we find men such as Professor Jaccoud. of Paris, advocating the use of stimulants from the first as part of the routine treatment of the disease.

Reverting again to the opinions, current among country practitioners; I find the same opinions represented, one declaring "that stimulants have no place in the treatment except during convalescence" Another avers "that they occupy a prominent place especially in the later stages." Still another says "I seldom give stimulants - though sometimes during

convalescence I think they do good" Another: "Essential but to be given with judgment" Yet another: "Very secondary; apparently of use in later stages."

So far as my experience goes, I am of opinion that mild cases require no Stimulants whatever, where the danger arises from exhaustion. Stimulants are absolutely necessary; and I have been led to believe, that they often quiet delirium, and as a rule do good in the cerebral type of the disease.

The pulse and tongue are the indicators to me; A very rapid quick pulse demands their administration; and Stimulants generally do well if the tongue is at all moist, even if be but the narrowest margin. In every case I regard their administration as experimental, and continue or not according to results.

I have here given in a humble and unambitious way the practical lessons which a few years experience has taught me, and in conclusion can only repeat, that every fresh day's work, adds to the conviction that, given the broad general lines on which to distinguish and

and treat diseases, each case is a particular study in itself, and the successful physician, is he who neglecting typical cases, and avoiding stereotyped treatment, takes all the bearings of each case into consideration, and treats it from an individual point of view.